

II. Listing of Claims

1. (Currently Amended): A six station rotary thermoforming machine comprising, in combination,

a carousel assembly having six panel carrying frames,

a first unheated loading station for loading first thermoformable panels having a face into every one of said six panel carrying frames,

a second loading station disposed adjacent said first loading station for loading second thermoformable panels having a face,

~~at least one~~ a first heating station disposed adjacent said second loading station for heating said panels,

a second heating station for heating said panels,

a thermoforming station comprising a first platen adapted to receive a first mold section for molding said first thermoformable panel and a second platen adapted to receive a second mold section for molding said second thermoformable panel, said first and second platens being opposed and translatable to engage said faces of said first thermoformable panel and said second thermoformable panel, said thermoforming station further comprising a loading assembly adapted to position an insert between said thermoformable panels,

an unloading station disposed adjacent said first unheated loading station,
and

~~a carousel assembly for receiving and translating thermoformable panels between said stations.~~

2. (Original): The rotary thermoforming machine of claim 1 further including a drive assembly adapted to intermittently rotate said carousel assembly.

3. (Original): The rotary thermoforming machine of claim 1 further including a sensor disposed adjacent said at least one heating station for sensing sag of said thermoformable panels.

4. (Original): The rotary thermoforming machine of claim 1 wherein said loading stations include suction lift cups.

5. (Original): The rotary thermoforming machine of claim 1 wherein said thermoforming station further includes drive means for raising and lowering said platens and locking means for securing said platens together.

6. (Original): The rotary thermoforming machine of claim 5 wherein said drive means includes a plurality of stationary gear racks received within bushings and engaged by spur gear driven by a motor drive assembly.

7. (Previously Presented): The rotary thermoforming machine of claim 5 wherein said locking means includes a plurality of bayonets having bayonet pins disposed for motion with one of said platens and a plurality of bayonet sockets disposed for motion with another of said platens.

8. (Previously Presented): The rotary thermoforming station of claim 1 further including bladders disposed between one of said mold sections and one of said platens.

9. (Currently Amended): A six station rotary thermoforming machine comprising, in combination,

a carousel having ~~a plurality of~~ six panel receiving frames,

a first unheated loading station for loading first thermoformable panels into said frames,

a second loading station disposed adjacent said first loading station for loading second thermoformable panels into said frames,

~~at least one~~ a first heating station disposed adjacent said second loading station for heating said thermoformable panels,

a second heating station for heating said thermoformable panels,

a thermoforming station having a first mold section for molding said first thermoformable panels and a second mold section for molding said second thermoformable panels, said first and second mold sections being vertically translatable to engage opposing faces of said first and second thermoformable panels, said thermoforming station further comprising an insert loading assembly for positioning an insert between said thermoformable panels, and

an unloading station adjacent said first unheated loading station,

wherein said carousel assembly transfers such thermoformable panels between such stations.

10 - 11. (Cancelled).

12. (Original): The rotary thermoforming machine of claim 9 wherein said thermoforming station further includes drive means for raising and lowering said platens and locking means for securing said platens together.

13. (Original): The rotary thermoforming machine of claim 12 wherein said drive means includes a plurality of stationary gear racks received within bushings and engaged by spur gear driven by a motor drive assembly.

14. (Previously Presented): The rotary thermoforming machine of claim 12 wherein said locking means includes a plurality of bayonets having bayonet pins disposed for vertical translation with one of said platens and a plurality of bayonet sockets disposed for vertical translation with another of said platens.

15. (Original): The rotary thermoforming machine of claim 9 further including a drive assembly adapted to intermittently rotate said carousel.

16. (Original): The rotary thermoforming machine of claim 9 further including a sensor disposed adjacent said at least one heating station for sensing sag of said thermoformable panels.

17. (Original): The rotary thermoforming machine of claim 9 wherein said carousel frames include clamp members adapted to engage said thermoformable panels and actuators coupled to said clamp members.

18. (Original): The rotary thermoforming machine of claim 9 wherein said first thermoformable panels have distinct surface features from said second thermoformable panels.

19. (Currently Amended): A six station rotary thermoforming machine comprising, in combination,

a carousel having ~~a plurality of~~ six panel receiving frames,

a drive assembly adapted to rotate said carousel,

a first unheated loading station for loading first thermoformable panels into said carousel frames,

a second loading station disposed adjacent said first loading station for loading second thermoformable panels into said carousel frames,

~~at least one~~ a first heating station disposed adjacent said second loading station for heating said thermoformable panels,

a second heating station for heating said thermoformable panels,

a thermoforming station having a first mold section for molding said first thermoformable panels and a second mold section for molding said second thermoformable panels, said first and second mold sections being vertically translatable to engage opposing faces of said first and second thermoformable panels,

an insert loading assembly at said thermoforming station for positioning an insert between said thermoformable panels during thermoforming, and
an unloading station disposed adjacent said first unheated loading station,
wherein said carousel assembly transfers such thermoformable panels between such stations.

20. (Cancelled).

21. (Original): The rotary thermoforming machine of claim 19 further including a sensor disposed adjacent said at least one heating station for sensing sag of said thermoformable panels.

22. (Original): The rotary thermoforming machine of claim 19 further including a plurality of air bladders disposed between one of said mold sections and one of said platens.

23. (Cancelled).

24. (Original): The rotary thermoforming machine of claim 19 wherein said thermoforming station further includes drive means for raising and lowering said platens and locking means for securing said platens together.

25. (Original): The rotary thermoforming machine of claim 24 wherein said drive means includes a plurality of stationary gear racks received within bushings and engaged by spur gear driven by a motor drive assembly.

26. (Previously Presented): The rotary thermoforming machine of claim 24 wherein said locking means includes a plurality of bayonets having bayonet pins disposed for vertical translation with one of said platens and a plurality of bayonet sockets disposed for vertical translation with another of said platens.